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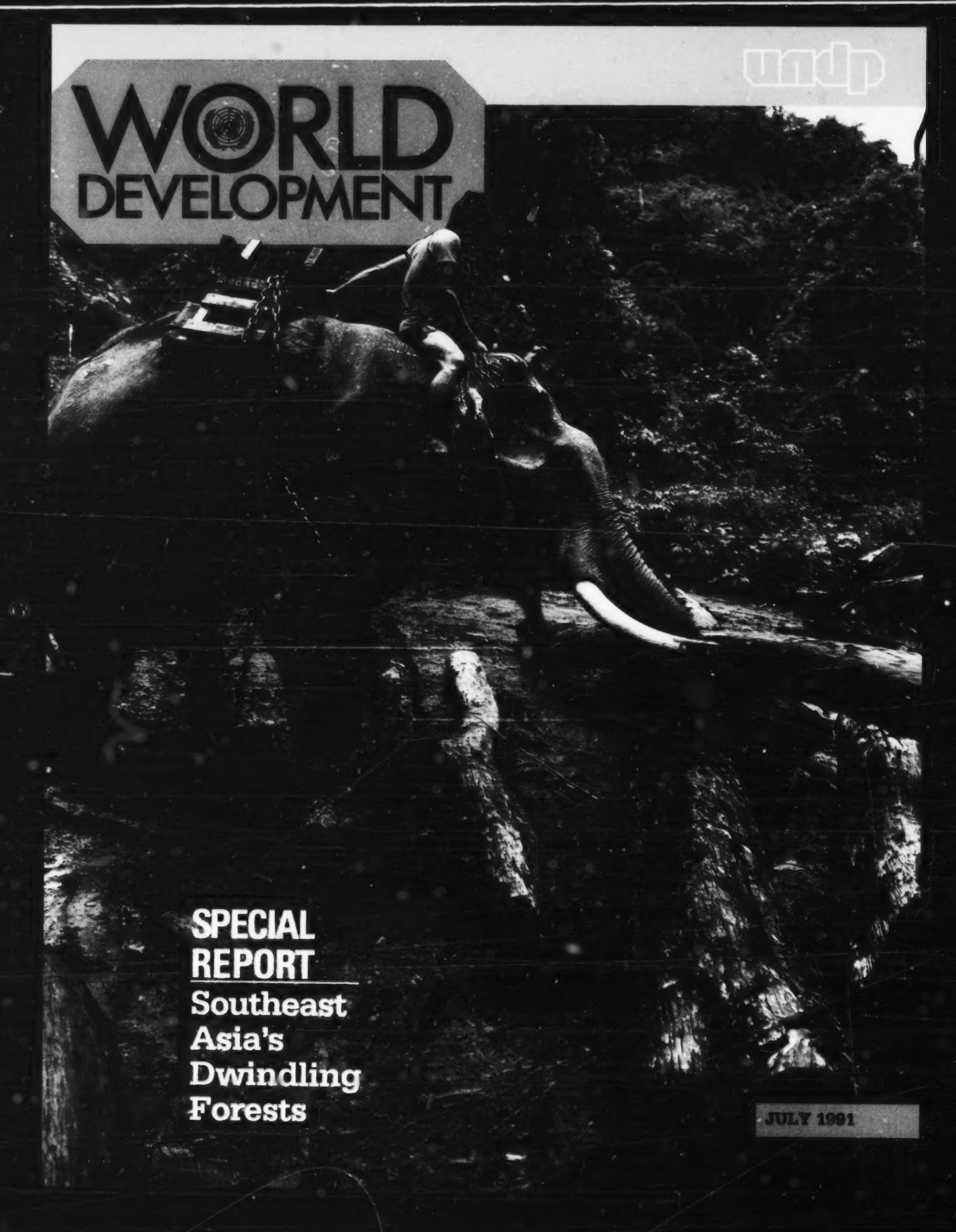

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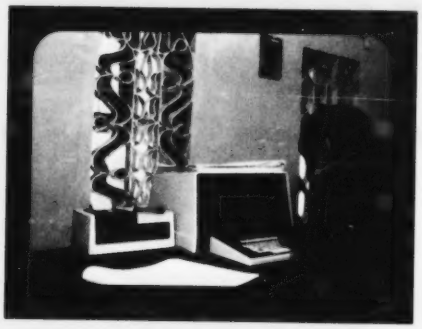

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WORLD DEVELOPMENT

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SPECIAL REPORT

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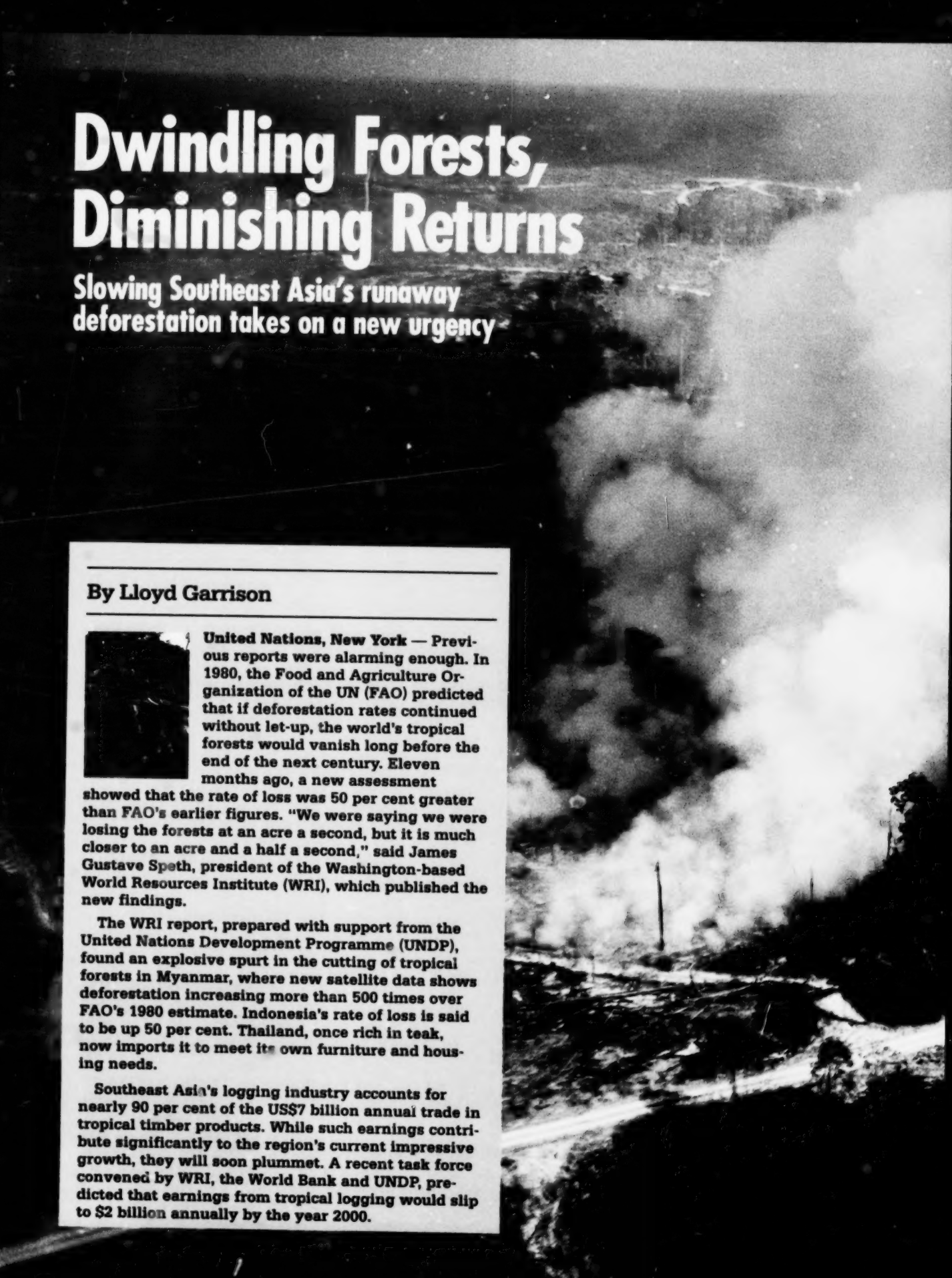
Dwindling Forests, Diminishing Returns

Slowing Southeast Asia's runaway deforestation takes on a new urgency



By Lloyd Garrison

United Nations, New York — Previous reports were alarming enough. In 1980, the Food and Agriculture Organization of the UN (FAO) predicted that if deforestation rates continued without let-up, the world's tropical forests would vanish long before the end of the next century. Eleven months ago, a new assessment showed that the rate of loss was 50 per cent greater than FAO's earlier figures. "We were saying we were losing the forests at an acre a second, but it is much closer to an acre and a half a second," said James Gustave Speth, president of the Washington-based World Resources Institute (WRI), which published the new findings.

The WRI report, prepared with support from the United Nations Development Programme (UNDP), found an explosive spurt in the cutting of tropical forests in Myanmar, where new satellite data shows deforestation increasing more than 500 times over FAO's 1980 estimate. Indonesia's rate of loss is said to be up 50 per cent. Thailand, once rich in teak, now imports it to meet its own furniture and housing needs.

Southeast Asia's logging industry accounts for nearly 90 per cent of the US$7 billion annual trade in tropical timber products. While such earnings contribute significantly to the region's current impressive growth, they will soon plummet. A recent task force convened by WRI, the World Bank and UNDP, predicted that earnings from tropical logging would slip to $2 billion annually by the year 2000.

Other long-term consequences are ominous indeed. Once cut over, acidic tropical soils quickly erode and lose their nutrients, debasing the land for future agriculture. In a single year over 350 Thai villagers were killed in landslides from slopes denuded of trees.

There is also a global environmental cost to overcutting. Through photosynthesis, tropical forests absorb large amounts of carbon dioxide. Many scientists believe that if not kept in check, carbon dioxide will cause a significant warming of the earth's surface, melting icebergs, flooding low coastal regions and vastly altering weather patterns that could harm agriculture. In addition, as nomadic farmers slash-and-burn tropical forests, the felled trees emit more carbon dioxide as they burn or decay.

In fact, up to 25 per cent of Southeast Asia's annual tree losses are accounted for by some 30 million land-hungry farmers who slash-and-burn remote forest tracts in a desperate bid to grow enough crops to live on. As Patti Petesch of the Washington-based Overseas Development Council has observed: "No tree-planting schemes can possibly succeed against a rising tide of poverty pushing in the opposite direction."

Stemming that tide is one of the main strategies behind UNDP's $31 million now invested in 28 forestry-related projects in Southeast Asia. These and other developments are highlighted in this special report on the region's dwindling forests. David Kinley reports on how UNDP has joined with the Thai Army to restore thousands of hectares of forest stripped bare during the war against guerrillas a decade ago. He also journeyed to one of the Philippine's last tropical forest frontiers on the island of Palawan, where once landless slash-and-burn farmers have finally been persuaded to settle down and raise profitable — and nutrient-restoring — plants and trees. In Indonesia, Cherie Hart found that even tourists were drawn to a new government-run teak plantation, where carefully controlled cutting is conducted in almost total silence — with hand saws. I. Rajeswary reveals that Malaysia, partly in response to a possible European tax on logs from tropical producers who fail to regulate harvesting, is setting up new forest reserves. The government has also agreed to an outside survey of forestry policies in the state of Sarawak, where hundreds of demonstrators are on trial for blocking logging roads.

As WRI's report has observed, deforestation "has been exacerbated by government economic, land tenure and agricultural policies as well as population pressures, poverty and debt." While all these obstacles are covered in the following pages, so too are some innovative, field-tested solutions. ■

Burning deforested land in Sumatra, Indonesia.

Photo by Lincoln Potter / Liaison International

Soldiers Bearing Seeds

By David Kinley

UNDP and the Army join to restore Thailand's deforested north

Photo by Nasa / Landsat

During the past 30 years, Thailand had one of the highest rates of deforestation in the world, losing up to half-a-million hectares per year. This Landsat image of Thailand's two southeastern provinces was taken during the dry season of 1990. Forest cover is in red. Pink areas depict crops such as cassava, sugar cane and orchards. A comparison with images from 1979 reveals that vast amounts of rolling lowlands were converted from forest to food crops. By 1990, most of the remaining forests were on steeper hillsides according to the Thailand Remote Sensing Centre.

Khao Kho was once covered with dense tropical forest.

THAILAND

Khao Kho, Thailand — High atop a mountain peak 400 kilometres north of Bangkok stands the Khao Kho War Museum — a growing attraction for Thai tourists. Inside, a room-size topographical map and video hook-up graphically depict the Royal Thai Army's defeat of communist insurgents nearly a decade ago. A young soldier throws switches lighting up the peaks and valleys where the Army and guerrillas clashed. Video screens show films of shielded bulldozers plowing roads through dense forests, helicopters strafing and napalm scorching whole hillsides.

Today, Khao Kho's once strategic heights reveal a landscape still deeply scarred. Formerly one of Thailand's densest forest reserves, the hills and valleys are virtually treeless, supporting only sporadic patches of maize on increasingly eroded slopes. The green cover across the land rapidly gives way to dusty red during the six-month dry season as the exposed soil bakes hard beneath an unrelenting sun and brush fires run rampant across the grassy mountainsides. Residents of the area — many illegal squatters and others settled by the Army after the fighting — are among the poorest in rural Thailand.

The battle is over, but the struggle to save the environment here and across much of northern Thailand looms large. Fresh forces, however, are assembling. The government, which long closed its eyes to ecological destruction, has now put "regreening" at the centre of national development policy. And the same General whose troops once defoliated the jungles to defeat the enemy is now engaged in a far-reaching struggle to resettle war-torn villages and restore denuded forests.

"The Army's image as a non-productive war machine dwells in the minds of people in many countries," General "Pete" Pichitr Kullavanijaya recently told an audience at Thailand's National Defense College. "Thailand, on the contrary, is using its military forces in a more productive role, playing an integral part in national economic and social development."

There is not a moment to lose. Today, less than one-quarter of Thailand is forested, down from more than 50 per cent in 1961. Over three decades, large-scale commercial logging, encroachment of reserves, warfare and slash-and-burn farming stripped the country's forests by half-a-million hectares a year, one of the highest rates of destruction in the world. The government recently ordered a halt to all logging. Now it aims to restore 40 per cent of the land to forest cover. In real terms that means that Thailand needs to replant over five million hectares.

Nowhere is the challenge greater than here at Khao Kho, where over 90 per cent of the forest cover vanished in little more than a decade. To meet it, General Pichitr was assigned to lead a new four-year initiative jointly run by the Army, the Forestry Department and the Food and Agriculture Organization of the UN (FAO). The US$1.2 million reforestation project, funded by the United Nations Development Programme (UNDP), aims to promote ecologically sound land use involving 8,000 villagers living on some 130,000 hectares. "Because of the insurgency, the disruption of community life and breakdown of sustainable agriculture, the problems confronting us at Khao Kho are very complex," says Tamas Marghescu, a German forester from FAO. "Land sharks from outside the area promote agriculture on lands unsuited for crop cultivation. And shifting, slash-and-burn farming practices are still common."

Phala Thachan, an army veteran and farmer who migrated into the Khao Kho area 10 years ago, typifies the dilemma of hundreds of recent settlers. "The land

David Kinley / UNDP

Temporary headquarters of Khao Kho's reforestation campaign.

of hundreds of recent settlers. "The land I was allotted by the Army was already stripped of trees," says Mr. Thachan. "Because of continuing erosion, my corn yields are declining. I would like to start planting trees and building contours on my land, but I don't have the seedlings or money to invest."

Efforts to assist poor farmers in Khao Kho actually began more than a decade ago with a pioneering resettlement scheme that created 32 new villages for former squatters. Each farm family was granted rights to three hectares of land. Working with government extension agents and private businesses, the Army helped introduce raw silk production and profitable new cash crops such as ginger and passion fruit.

"To achieve environmental improvements, the extreme poverty in Khao Kho must first be overcome," says General Pichitr. "By intensifying cultivation on farm plots, family incomes have increased threefold in just a few years. Now the challenge is to extend these practices to hundreds of other families throughout the Khao Kho zone."

"Our strategy," says FAO's Mr. Marghescu, "is to introduce new higher-value crops and, at the same time, convince farmers to plant trees in family woodlots and community forests. Our new nursery will soon be producing over a million tree seedlings a year which we will provide free to the farmers."

Lessons are also being drawn from UNDP-funded "agroforestry" programmes which are restoring the ecological balance to other denuded sections of the northeast. Virat Namking is one of 20 farmers in the Pak Thong Chai District near the city of Korat who is demonstrating the type of rehabilitation that the Forestry Department aims to extend to nearly 10 million people now living in degraded forest reserves.

When Mr. Namking moved to his five-hectare farm four years ago it was virtually treeless. Since then, Mr. Namking, formerly a day labourer in an orchard outside Bangkok, has planted over 1,600 fruit trees while maintaining his maize and upland rice crops. "My income has more than doubled since I adopted the new practices, and the fertility of the soil is on the rise," says Mr. Namking. "When the other farmers visit here I teach them how to nurture tree seedlings, compost their wastes and diversify their crops."

Mr. Namking is not alone. Through the joint efforts of the Royal Thai Forestry Department, UNDP and FAO, 8,000 farmers in the district are benefiting from improved agroforestry systems. And over 10,000 hectares of degraded forest lands have been rehabilitated.

But in many parts of the northeast, the land is too degraded to support ongoing cultivation. Such was the case throughout much of the 300-square kilometre Phu Wiang watershed in Khon Kaen province, where many decades of cassava cultivation pushed soil fertility below marginal levels. Restoring the ecological balance has required large-

Thai Loggers Push Over the Border

While the Royal Thai Army may be playing a constructive role in reforestation efforts at home, the involvement of some officers in logging operations across the border in tumultuous Myanmar is increasingly controversial. In the two years since a logging ban was instituted throughout Thailand, up to 30 Thai companies — many with close connections to the military — have been awarded sizeable logging concessions along the border and deep inside Myanmar's rebel-contested interior.

Just how much destructive logging is taking place within these concessions and throughout Myanmar is the subject of a heated debate between government representatives and independent observers. According to British forest expert Norman Meyers of the Intergovernmental Panel on Climate Change, recent satellite photographs indicate that up to 8,000 square kilometres of forest cover — an area roughly equal to the country of El Salvador — are being cleared each year. This ranks Myanmar with the fifth highest rate of forest destruction in the world, following Brazil, Indonesia, Colombia and Côte d'Ivoire. But U Ba Thwin of Myanmar's Foreign Ministry says his country has "a very well-managed forestry system." His government insists that annual losses of forests stand at 0.3 per cent of forest cover, or 1,050 square kilometres, a fraction of what outsiders claim. The government asserts, moreover, that its

Peter Chadwick / JB Pictures

A lumber yard in Yangon, Myanmar.

policy runs strictly on the "sustainable development" principles advocated by the Tropical Forestry Action Plan prepared by UNDP, the World Bank and FAO. And it says that much of the illegal flow of teak is actually supplied by insurgent forces fighting the government.

The Myanmar military junta recently announced that it will not award any further concessions to foreign logging companies and that it has issued a stricter set of guidelines for the Thai companies operating in the country. But the government's decision to move ahead with two new UNDP-funded forestry development projects valued at almost US$20 million stirred even harsher criticism, especially from exiled student groups opposing the military regime.

As war and civil strife continue inside the country, both the military and rebel groups will need the cash generated by wholesale logging. Never has the temptation to sell been greater, as overseas buyers are willing to pay a premium price for raw logs from Myanmar's virgin forests, many rich in teak. — **D.K.**

Tree seedlings ready for distribution in northeast Thailand.

scale planting of fast-growing trees such as eucalyptus, acacia and leu-caena, which protect against erosion while restoring nitrogen and humus to the soil. Under a special demonstration project supported by UNDP, a major portion of the area has now been reforested.

"Each year we reforest over 250 hectares that have been badly degraded," says Supachart Wannawong, a Thai forest technician, who studied at the University of Idaho in the US. "When we catch someone encroaching on the forest we supply them with seedlings and teach them how to take care of the young trees."

To remove pressure on the forests, the 17,000 farming households in Phu Wiang are being introduced to composting, crop rotation and legume production. High income fruit crops, silk production and beekeeping are also being promoted. "When small farmers earn higher and sustainable incomes on their own land, they will stop encroaching on national forest reserves," says Udhai Thonghee, field director of the project.

Meeting the target of restoring 40 per cent of the land to forests will require more than a project-by-project approach. With support from the Finnish government and UNDP, a team of experts from the Royal Thai government and a foreign consultancy firm are drawing up a Forestry Master Plan which will show Thailand how to meet the nation's food, fuel and forest product needs while protecting its watersheds, wildlife and biodiversity.

But the ultimate test of such a plan will be whether it can improve the lot of small farmers like In On-Wan, a village headman in Khao Kho whose denuded hillside lands awarded to him by the Army are steadily eroding. "We need help from the government in growing new crops and building a decent road," says Mr. On-Wan. "We need a safe water supply and better schools to keep our young people from leaving. And we need tree seedlings to meet our fuelwood needs."

The conditions in Khao Kho are extreme and the farmers' situation is desperate, but not unique. More than 10 million rural Thais are crying out for the same kind of help. Only when their needs are met can they join with the Army, the foresters and the international community in a concerted effort to restore the nation's forests. ■

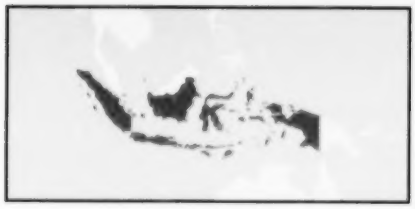
A Showcase In Teak

Indonesia struggles to protect forests while preserving jobs and revenues

By Cherie Hart

Cepu, Indonesia — The scene is an environmentalist's dream. At a state-run teak plantation in the heart of Central Java, two loggers use a manual saw to slice through an 80-year-old teak tree. The noise is so faint that the chatter of insects remains undisturbed. The towering tree does not budge for half an hour, until, almost imperceptibly, it begins to tilt. With a muted thud it falls, never touching another tree in its path to earth. Tree harvesting is so limited and selective in this forest that chain saws would be too costly and serve only to disturb the local ecology.

Two more loggers with smaller hand saws section the aged tree into perfect logs. The wood is then skidded by bulls from the felling site to a nearby road. No snorting bulldozers, no whirling chainsaws. All is well in the forest. Or is it?



INDONESIA

Thousands of trees crash to the ground every day in Indonesia. Not all of them fall in carefully managed tree plantations like this one run by Perum Perhutani, one of the country's four state-owned forestry corporations. Here, forestry regulations and conservation policies are closely monitored.

In fact, the government is so proud of its forest production and conservation in Cepu that it has turned this 33,550-hectare model teak farm into a tourist attraction. "The development of forestry-tourism," says one brochure, "is intended to show the extent to which the country's forest preservation programmes, especially in Java, have been implemented."

Public relations aside, the sustained yield of forests in Cepu, the efficiency of the nearby sawmill and the ease with which local farmers grow food crops between neat rows of teak trees, are achievements deserving to be showcased. "Every tree that is cut down in Cepu is replaced," says Robert Metzger, an American forestry advisor. Mr Metzger helped design a land use and forest management planning system for Indonesia, as part of a United Nations Development Programme (UNDP) project carried out by the Food and Agriculture Organization of the UN (FAO). "If the lessons learned in Cepu could be applied to the forests in the outer islands," he says, "then Indonesia would have no forestry problems."

But it does. Government officials, timber executives, conservationists and forestry experts offer a mixed picture as to how well Jakarta is succeeding in protecting the country's forest resources. Most Indonesian trees fall in more than 560 private timber concessions where short-term profits and long-term conservation are often at odds. The country's estimated annual loss of forest was 300,000 hectares in the 1970s, and 600,000 in the early 1980s. According to FAO statistics, Indonesia's deforestation is now close to one million hectares a year — an area the size of Lebanon.

The environmental significance of those falling trees has placed Indonesia at the heart of the global debate over the future of tropical forests. Within the country's 144 million hectares of forest, scientists have identified at least 4,000 species of trees, 500 species of mammals and more than 1,500 kinds of birds. Ten per cent of the world's tropical forests are in Indonesia, which has the largest forest cover in Asia. Aside from sheltering rare plant and animal species, its tropical forests also serve as a major brake on the build-up of carbon dioxide which is linked to global warming.

Hand saws are used to section teak trees into logs.

Bulls rather than bulldozers haul logs on a government-run teak farm.

Sawmill production rose sharply after a ban on all raw log exports.

Photos by Cherie Hart / UNDP

Trees must be at least 50 centimetres in circumference before they can be cut.

Finding land and employment for Indonesia's 178 million people, while also preserving its forests, is no simple feat. "Indonesia's forestry regulations are well thought out," says C. Chandrasakharan, an FAO forestry economist who is overseeing an extensive World Bank-financed review of the nation's forests. "For the past 25 years, the country has been systematically trying to control how much is cut," he says, "but there is a lack of skilled manpower to fully effect the regulations."

Indonesian officials contend that if tropical rain forests belong to the world, then the burden of safeguarding them should be allocated fairly among developing and industrialized countries. "Those concerned about the world's forests should help us protect our share of the global lung," says Aca Sugandhy, Assistant Minister of State for Population and Environment. "We need technical and financial help."

Indonesia has a big stake in protecting its forests. Second only to petroleum products in foreign exchange earnings, forest product exports bring in more than US$3 billion each year and provide over 500,000 jobs. But finding appropriate ways to maintain this valuable resource is not easy. Many well-intentioned timber policies have had unintended consequences. Government controls over logging which began in the late 1960s have set standards that allow only trees of more than 50 centimetres in circumference to be cut. But this has meant that companies have bulldozed increasingly wider swaths just to get to the larger trees.

In 1989, President Suharto pledged to channel $300 million annually into projects to reforest 20 million hectares over the next 65 years. This followed a decree in 1985 which banned all log exports and imposed heavy export duties on lumber. The aim was to build up processing industries to sell more finished wood products with higher value added, such as furniture, plywood, pulp and paper. It was seen as a way to slow the rate of deforestation while increasing revenue and cutting fewer trees. The government laid plans for enormous tree plantations to supply the new

Scraps of wood in the state-run teak farm are used to create floor tiles.

M. S. Zulkarnaen, executive director of WALHI.

processing plants in order to relieve pressures on its natural forest.

Officials at a leading Indonesian forum of environmental non-governmental agencies, known as WALHI, claim such measures place too much emphasis on commercial forestry projects, and pay little attention to conservation schemes. "Plans to expand pulpwood mills are not realistic," says M.S. Zulkarnaen, executive director of WALHI. "Indonesia does not have the capacity to plant enough fast-growing timber estates to service the mills. Industry will have to increasingly encroach on natural hardwood forests."

In other measures to control forest exploitation, the government has created five categories of forests, within which varying degrees of harvesting are permitted. While this approach to forestry management is sound, Indonesian officials do not have sufficient data to determine exactly how much forest exists, much less how the land should be allocated. "We have forestry resource information, but it is not the best," says Roedjai Djakaria, head of the Bureau of Planning in the Ministry of Forestry. "We need current data on what types of timber exist, where different soils are, how water courses have shifted, how much deforestation has occurred and what the forest growth rates are." Because such up-to-date information is essential to strengthening Indonesia's forestry management, the World Bank has recently provided a $35 million loan for a comprehensive forest resource inventory.

Another vital ingredient for quality forest management is strict enforcement of current regulations governing forest use. More than 53 million hectares of forest are licensed to private concession holders on leases averaging 20 years. In theory, government inspectors patrol these areas to see that regulations are met. But there are not enough officers to do the job, and WALHI and other environmental groups claim that such policing is inadequate. In practice, the concessionaires become guardians of the forest. "This is akin to asking the fox to guard the chickens," says Mr. Metzger.

The government, on the other hand, contends that it plays tough with companies caught violating the rules. In 1989, 48 concessions were revoked and 37 were suspended. Fines totalling more than $4 million were imposed.

Nevertheless, continued denuding of forest reserves has placed the government under increasing internal and external pressures to implement tougher management policies. The new Minister of Forestry, Hasjrul Harahap, is exploring measures to improve discipline and intensify supervision. New studies, including a UNDP-funded forest management plan for Indonesia, propose more strict controls.

No such shift has yet occurred. But the government has proven itself capable of taking bold steps in the past. Its total ban on log exports was one such decision. These were moves that even developed industrial countries have not ventured to take.

While the logging practices in the private concessions are a long way from the carefully controlled harvesting at the government-run teak plantation in Cepu, Indonesia has had the foresight to set sustainable production goals and seek stronger forestry management and conservation policies. Only time will tell how soon and how thoroughly such reforms will be enacted. ■

Sarawak's forests shelter over 20,000 different types of animals and insects.

Profits vs. Preservation

Malaysia's forests are under pressure from loggers and slash-and-burn farmers

By I. Rajeswary

Kuching, Malaysia — Three years ago, the Penans, a small ethnic group in the Malaysian state of Sarawak, formed human barricades in front of timber lorries to stop logging in the rain forests. The Penans charged that unrestricted lumbering clogged rivers and killed fish, forced wild game to disappear and drove their semi-nomadic community deeper into the forest. Nearly 100 were arrested, an event widely reported in the international press.

The Penans were not the only ones threatened. Sarawak, located on the island of Borneo, shelters 2,500 tree species, 5,500 types of flowering plants and over 20,000 different kinds of animals and insects. The plants alone provide a rich biodiversity vital to global researchers seeking to devise more productive and disease-resistant crop strains.

But more than the ecosystem is at stake. In 1987, overseas sales of forest products amounted to US$900 million, more than a third of Sarawak's exports. State government royalties collected the same year totalled $190 million. Over

Photos by I. Rajeswary / UNDP

Most of the logs in Sibu, Sarawak, are destined for Japan.

55,000 people, including several hundred Penans, count on the logging industry for jobs. In fact, lumbering is so deeply entrenched in the state's economy that Sarawak's chief minister is reported to have said that anyone interfering with logging is a "number one traitor."

Sarawak, the largest of 13 states which form the federation of Malaysia, and Sabah — the other Malaysian state in Borneo — supply two-thirds of the world's tropical hardwood. The bulk of it is shipped to Japan. In 1987 alone, the most recent year for which estimates are available, 310,000 hectares were cut to produce 13.6 million cubic metres of logs — a 180 per cent increase from 1977.

Environmentalists are concerned that at this rate, Malaysia's precious natural heritage will soon disappear, further jeopardizing the livelihood of people dependent on forests. "Human beings," says Gurmit Singh, president of the Environmental Protection Society of Malaysia (EPSM), "are as important to the ecosystem as is the elephant, tiger or mosquito." EPSM, a non-governmental organization in the Malaysian capital of Kuala Lumpur, is committed to promoting sustainable forest management and championing the cause of native peoples.

Rain Forest

Source: Tropical Rain Forest in Southeast Asia (Ken Rutzel, 1986)

The government is deeply sensitive to charges of ravaging the rain forests. "We Malaysians, more than anyone else, appreciate the importance and role of our forests on the socio-economic well-being of our country," says Dr. Lim Keng Yaik, federal minister of Primary Industries, in a preface to a

In 1987, Sabah and Sarawak produced 13.6 million cubic metres of logs, up 180 per cent from 1977.

government booklet. The glossy publication is part of a government campaign to counter accusations of over-logging.

But striking a balance between environmental needs and development is complicated by the fact that each of Malaysia's 13 states exercises control over its own forests. The federal government's role is confined to financing research and development and providing training and technical assistance.

Not all states share the same priorities. For instance, to reduce deforestation, the 11 states of Peninsula Malaysia banned raw log exports in 1985 in order to promote local wood processing industries such as furniture making. But in Sabah and Sarawak, where forest products comprise the bulk of the states' exports, there are no plans in either state to ban logging.

Although Sarawak's forest policy was drafted in 1954, it was not until 1968 that the first comprehensive forest inventory was launched with funds and technical assistance from the United Nations Development Programme (UNDP) and the Food and Agriculture Organization of the UN (FAO). Indeed, it was the first forest inventory anywhere in Malaysia and took seven years to complete.

In 1975, the UNDP-funded project was extended for another three years to strengthen Sarawak's forest management techniques. Today, the state boasts of 4.5 million hectares of forest estates where logging is entirely prohibited. Natives only are free to fish, hunt and gather wild fruit and plants for traditional medicine in these estates.

The state has also set aside over 80,000 hectares for seven national parks and over 170,000 hectares for four wildlife sanctuaries.

Areas reserved for harvesting are carefully surveyed and divided into logging blocks by the state Forest Department, which also specifies when and where trees can be cut. "The operator must get our permission before he enters each new block," says James Mamit, a government forest products official at the Forest Department's headquarters in Sarawak's capital of Kuching.

As 73 per cent of the state's rain forests are now under long-term logging licences, such block plans are crucial to preserving Sarawak's forests and ensuring continued growth. Responsible loggers such as Ha Tung Pang, field manager for Sibu's Mukah Hill forest concession, swear by these plans. Sibu is a coastal town 400 kilometres north of Kuching. "Despite rapid natural regeneration of trees," says Mr. Ha, "we could deplete our forests in no time without specific cutting cycles."

But even the best laid plans can be subverted. Inside Mr. Ha's logging area are pockets of upland rice planted by slash-and-burn cultivators who have taken advantage of access roads built by the company. "These people," says Frankie Teh, a forest research officer in Sibu, "are the main threat to our forest resources."

Environmentalists, however, blame deforestation on overlogging, not shifting cultivation. "If this is not true," says EPSM's Gurmit Singh, "why has our government, for the past 10 years, refused to allow us to make spot checks on logging sites?" Mr. Singh says that as long as logging concessions are tied to political patronage and granted at the discretion of office-holders, rain forests will continue to be threatened.

To curb shifting cultivators, Sabah and Sarawak have turned to recruiting nomadic farmers, including the Penans, for agroforestry projects. Natives in a

Photo by J. Raeway / UNDP

Foresters check the pace of natural forest regeneration outside Sibu.

Gurmit Singh, head of the Environmental Protection Society of Malaysia.

pilot project near the Sabal Forest Reserve, 112 kilometres southeast of Kuching, now enjoy a steady income from cocoa and fruit farming. Only one slash-and-burn farm family remains compared to 51 in 1985. "We had to spend a lot of time," says agroforestry officer Dawend Jiwan, "convincing them that sedentary agriculture can be profitable."

Migratory farmers in Bengkoka in northern Sabah and traditional hunters in Karamatoi in the eastern region are now involved in converting wasteland and marginal farm land to productive forest use. Over 10,000 hectares of new forests have been created. UNDP and FAO are now helping the Sabah government draft an environmental master plan for the state.

Some officials admit that the international outcry against the destruction of rain forests and European threats to boycott tropical hardwoods forced the Malaysian government to show "proof" of its conservation plans. The government recently acknowledged that over 500,000 hectares of forests in Peninsula Malaysia were logged between 1986 and June of last year, although the area officially set aside for cutting was only 320,400 hectares. To reduce the rate of deforestation, export levies on 21 species of sawn timber were imposed in March this year. A national master plan on land use has been proposed, which would serve as a guideline for the states to follow.

"Our future is not bleak," says Thang Hooi Chiew, Peninsula Malaysia's Director of Forest Management. "We have identified our problems and are taking steps to solve them. But we need time." He criticizes industrialized nations for imposing high tariffs on imports of processed wood products such as furniture, which he says, leave states like Sabah and Sarawak little choice but to cut more trees for sale as raw logs.

Meanwhile, Sarawak walks a tightrope between curbing the depletion of forests and trying to find jobs for 1.7 million people, including some 9,000 Penans. Even the Penans are divided over continued logging, as many work for timber companies. Only a few hundred form the core of protestors who demonstrated in 1988.

Two years after the publicity surrounding the Penans' protest, Sarawak invited the Japan-based International Tropical Timber Organization (ITTO) to inspect the timber industry and make recommendations. It was the first time that ITTO, a consulting group of 36 timber producing and consuming countries, investigated a member's domestic forestry.

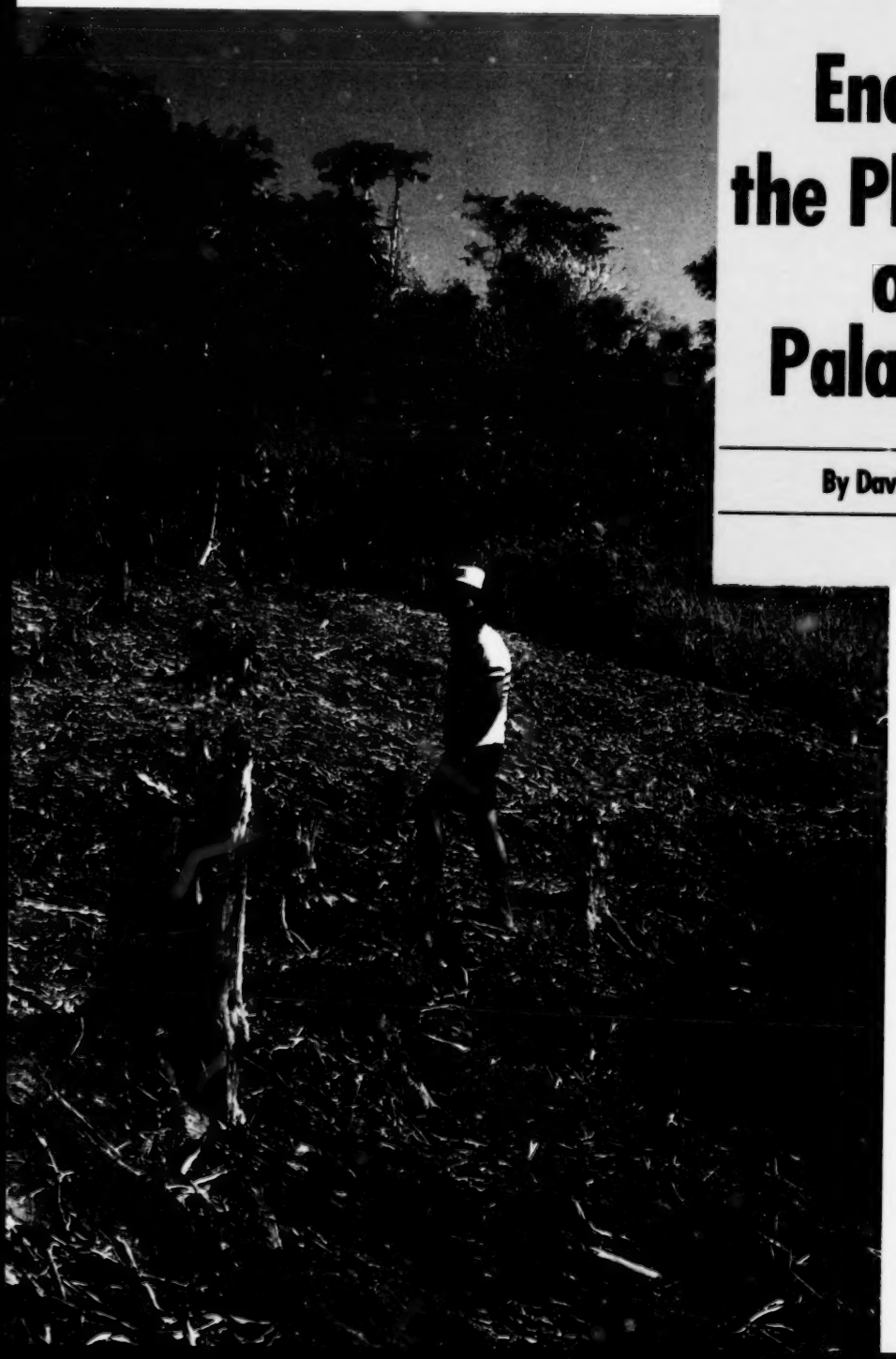
While ITTO's report, released last November, observes that the state forest department is woefully understaffed, it commends Sarawak's standards of forest management as being higher than in most tropical timber-producing countries. But ITTO noted that the system is not good enough to ensure that logging is carried out on a sustainable basis. The report concluded that few people in the state object to logging. It is the manner and speed at which it is carried out that is at issue.

ITTO recommended production levels of not more than 9.2 million cubic metres annually. But it warned that at the current rate of deforestation — roughly 12 million cubic metres a year — there won't be a tree left standing in Sarawak in 11 years. ■

PHILIPPINES

Ending the Plunder of Palawan

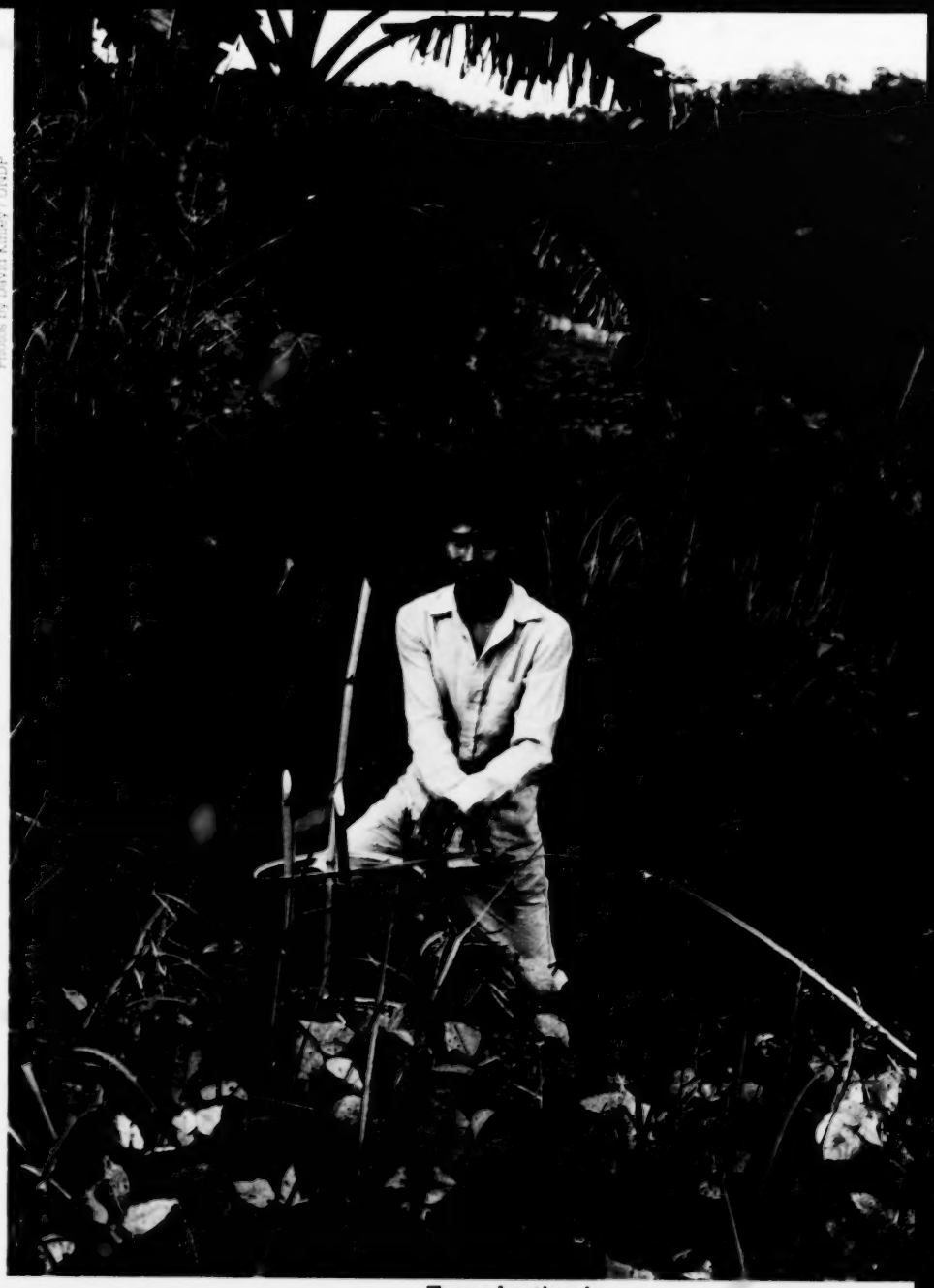
By David Kinley



Cabigaan, Philippines — Some of the poorest people of the Philippines are the *kaigineros*, migrant, slash-and-burn cultivators who survive as squatters on public lands, often in mountainous zones. Their destructive farm practices have been one of the main causes of widespread deforestation throughout the country.

Nowhere is this destruction more evident than here on the island of Palawan, where the average *kaiginero* family lays to waste as much as a quarter hectare of forest every year. A few decades ago, Palawan, which lies 500 kilometres south of Manila, was largely virgin forest. Today, more than 40 per

Farming on burned-out hillsides is a leading cause of erosion in the Philippines.



Photos by David Kibuuka / UNDP

Tree-planting in Palawan.

cent of the area has been stripped bare. What remains is one of the last frontiers of the Philippines.

Nenusio Ngeni and hundreds of other nomadic Tagbanos occupying the Palawan uplands were parties to this growing ecological disaster. Season after season, they cleared the forest to grow corn and other food crops. When the fragile tropical topsoil washed away one or two harvests later, they moved on to the next patch of forest.

But the costs of such a fitful existence are mounting. "The island lost 19,000 hectares of forest each year during the 1980s," says Nilo Cabay, acting Governor of Palawan Province. "If the loggers, settlers and mountain farmers aren't brought under control, this island will soon be devastated."

Fortunately for Palawan, persevering young foresters like Hector Mauricio are reforming the ways farmers use the land. Against all odds, Mr. Mauricio and a team of rural specialists working for the Palawan Integrated Area Development Project (PIADP) have brought the cutting to a halt around this new settlement 80 kilometres south of Puerto Princesa, the provincial capital. "When we first came here to help, the Tagbanos were deeply suspicious of Christian lowlanders," says Mr. Mauricio. "For decades they had been victims of unscrupulous money-lenders and traders. Their situation had become desperate."

Through enticements, education, gentle persuasion and technical aid supplied by the United Nations Development Programme (UNDP), scores of impoverished families have become members of a stable, increasingly prosperous rural community. "Each Tagbano household has been awarded an eight-year land stewardship contract by the government," says Mr. Mauricio. "It gives them secure tenure and an incentive to improve their holdings."

The Philippines leads Asia in tropical reforestation

Photos by David Kinley / UNDP

Ricardo Sandalo of PIADP checks out illegally cut logs which were confiscated.

Meteorological instruments provided by UNDP measure water resources at Angat reservoir.

After only five years, nearly 60 per cent of the typical farm here is devoted to tree crops and soil-protecting hedge rows grown between traditional food crops. Mr. Ngeni's four-hectare farm is a model of the ecologically sound cropping that PIADP is promoting as the alternative to slash-and-burn. The land sustains banana, cashew and coconut trees as well as fast-growing fuelwood varieties. A host of nitrogen-fixing food crops grow alongside the typical corn and rice mainstays.

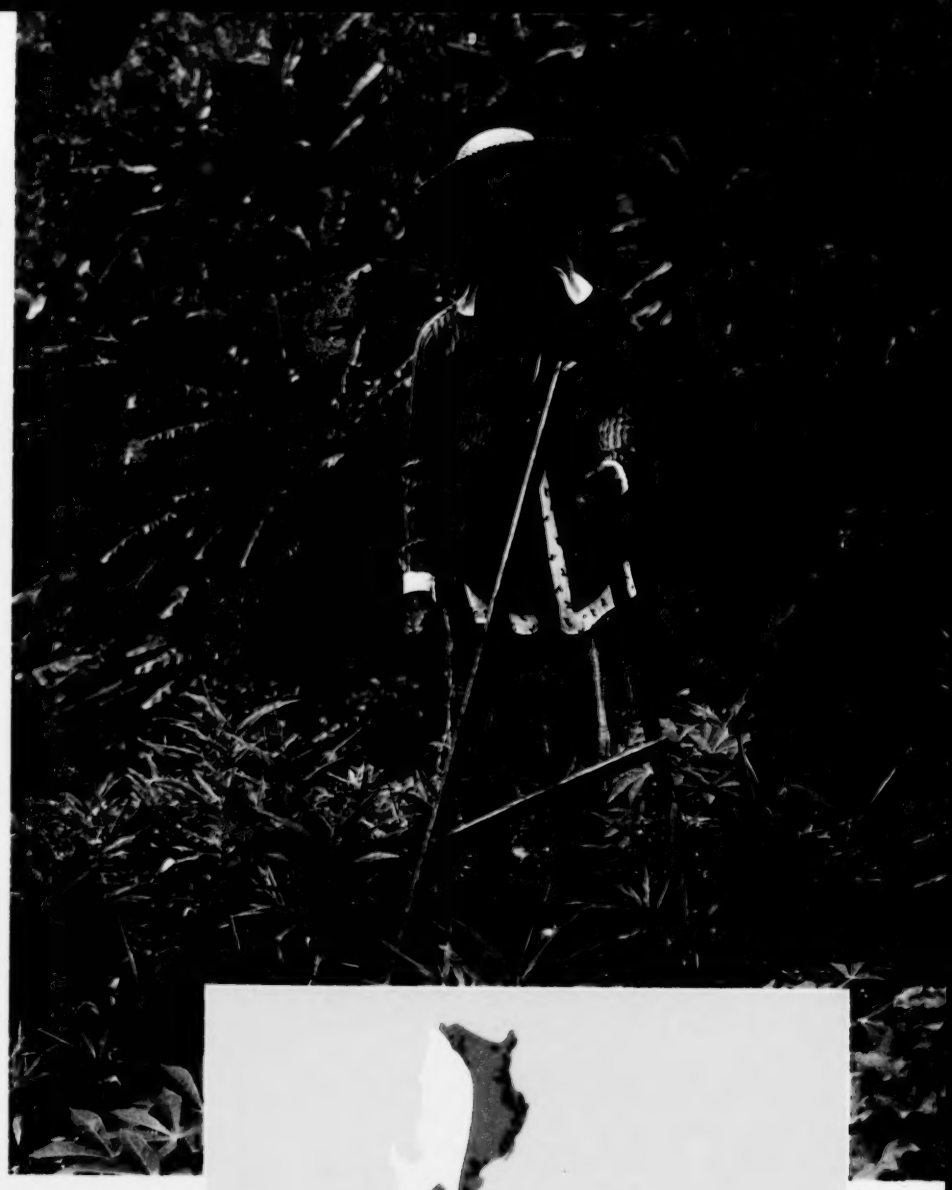
"The extension agents taught us how to manage the land to meet all our basic needs," says Mr. Ngeni. "I no longer have to cut down the forest for fuelwood and new farmland." Last year Mr. Ngeni netted over US$300, more than double what he used to earn.

The same turnarounds taking place in Palawan are being repeated in other parts of the Philippines, and none too soon. According to the Department of Environment and Natural Resources (DENR), the Philippines lost an average of over 224,000 hectares of forest a year during the last three decades. Deforestation was greatest in the 1960s, when up to 300,000 hectares each year were stripped by loggers and squatters. But the rate remained high — at least 100,000 hectares per year — into the 1980s. Fifty years ago almost 57 per cent of the nation's total land area was under forest cover. Today, only 22 per cent is forested.

Experts say that the causes of such massive destruction are many. Rapid population growth and limited new land for agriculture top the list. Other causes include increasing rural poverty, short-sighted government policies regarding commercial logging and inadequate controls over encroachment on public lands. There are over 10 million impoverished *kaigineros* — at least 15 per cent of the Philippine population — dwelling illegally on forest lands. Now, through a new comprehensive Master Plan for Forestry Development, the government is trying to transform these people into agents of reforestation.

In the hilly forested areas of Ilocos Norte province in northern Luzon, a team of experts from Mariano Marcos State University and the Food and Agriculture Organization of the UN are helping small farmers to adopt new agroforestry methods on sloping lands suffering from severe erosion. In the hills 10 kilometres outside Batac, the homestead of Alipio Ila has been turned into a model of ecologically sound farming. "I've already planted 200 coffee trees on the hilly sections of my farm," says Mr. Ila. "These work well in combination with acacia, fruit trees, cowpeas and mungbeans. My neighbours like this approach, and five have already started to adopt it."

Since the university initiative was launched three years ago with $1 million from UNDP, over 100,000 forest and fruit trees have been distributed to farmers like Mr. Ila throughout Ilocos Norte. A similar strategy is being pursued in government-supported "social forestry" programmes now operating in southern Luzon, again with technical



Sophia Olares replanting a denuded hillside in southern Luzon.

and financial backing from UNDP. Almost 300 farmers around Atimonan have been organized into an association called *Kapit Bisig*, which in Tagalog means "linking of arms." Members are trained in agroforestry, co-operative credit systems and small enterprise development.

"It takes a lot of time and education to change the habits of slash-and-burn farmers," says Hernani de los Reyes, area manager for the social forestry initiative in Atimonan. "But once they gain rights over the land and see that we can offer them a more productive way of farming, they are willing to risk something new."

Based on the important lessons learned through such pilot programmes, the Philippine government last year launched a 25-year multi-billion dollar Master Plan for Forestry developed with support from the Asian Development Bank and Finland. "We are setting up new institutions and policies which allow the communities to become the managers and protectors of the forests," says Ricardo Umali, a Yale University-trained forester who is now a top official in the DENR.

In combination with new national legislation restricting logging concessions and clamping down on illegal cutting, the DENR approach is already turning the situation around. According to DENR Secretary Fulgencio Factoran, almost 65,000 hectares were reforested across the country in 1988. If sufficient funds can be raised for the Master Plan initiative, that figure could rise to 300,000 hectares per year in the 1990s, making the country a net reforester, ahead of all other countries in Southeast Asia. ■

Rain Forest
Former Rain Forest

Source: The Last Rain Forests (New York: Oxford University Press, 1990)

Reversing Wasted

Universal primary education and health care by the year 2000 are attainable goals if government spending priorities are recast.

Louise Gubb / UNDP

HUMAN DEVELOPMENT

Opportunities

The Human Development Report 1991 calls for new spending priorities

By Lois Jensen

United Nations, New York — In an unprecedented show of international solidarity, countries around the world recently supported a war in the Middle East that cost more than a billion dollars a day. Mustering the same political commitment and financial assistance for the forces that sustain life — for health, education, shelter and other human rights — is far more elusive.

The importance that governments assign to basic human needs and the lengths that countries will go to meet them is the challenge that runs throughout the *Human Development Report 1991*. "Most countries can accommodate additional expenditure for human development if priorities are recast," says William H. Draper III, administrator of the United Nations Development Programme (UNDP) in his preface to the report. "There are far too many examples of wasted resources and wasted opportunities: rising military expenditures, inefficient public enterprises, numerous prestige projects, growing capital flight and extensive corruption."

Second in a series of annual reports, the *Human Development Report 1991* was released on 22 May at the National Press Club in Washington, DC. It was published for UNDP by Oxford University Press. Like last year's inaugural edition, the 1991 report argues that a nation's progress should be measured by a wider yardstick than per capita gross national product (GNP). The Human Development Index (HDI), introduced last year, ranked 130 countries by a single measure that combined life expectancy, adult literacy and basic purchasing power. It showed that higher incomes do not necessarily assure a better quality of life, and that decent levels of human development are possible even with modest economic growth.

This year's report refines the HDI and extends the rating to 160 countries. It also includes new indices which reflect income distribution and disparities in the human development levels of men

and women. Japan tops the list for the second year in a row. Sierra Leone dropped to last place. Yet when the HDI is adjusted for gender disparities, Japan falls from number one to 17. Similarly the ranking of several countries, including Brazil, Nepal and Côte d'Ivoire, slips dramatically when the distribution of wealth is taken into account. Despite low or negative growth rates, many of the least developed countries in Africa made good progress when human development levels in 1970 are compared with those 15 years later.

A new "human freedom index" in this year's report ranks 88 countries by 40 indicators, including press freedom, multi-party elections, and right to travel and assembly. Sweden and Denmark top the freedom index. Romania, Libya and Iraq are at the bottom. "Though freedom is hard to quantify or to measure — and the causality far from clear — no one can deny the link between freedom and human development," says Mahbub ul Haq, a former minister of finance and planning in Pakistan and the principal author of the report. Dr Haq is currently special adviser to the UNDP administrator.

While conceding that the HDI still requires more fine-tuning and more current data, this year's report lays out concrete steps any country can take to improve its human development record. It suggests guidelines for a public spending policy based on ratios involving public expenditures, expenditures for social services and for priority human needs. It also outlines political strategies to push human development forward in the face of entrenched bureaucracies and powerful special interest groups.

According to the authors' analysis, as much as US$50 billion a year could be found in developing countries to meet urgent human needs. Some of this money could come from freezing military expenditures, which absorb 5.5 per cent of the GNP of the developing world. In Angola, Chad, Pakistan, Peru, Syria, Uganda and Zaire, for example, arms spending is at least double the amount spent on health and education. The report says that other funds could be found by reforming or selling off inefficient public enterprises, combating corruption, restructuring debt payments and halting capital flight.

Currently, expenditure on priority human needs — providing access to basic education, primary health care, clean water, family planning, affordable food and social security — is less than one-tenth of total public spending in the developing countries. "The report conclusively demonstrates that there is no paucity of financial resources in most national budgets if the political will is there to restructure existing priorities," says Dr. Haq.

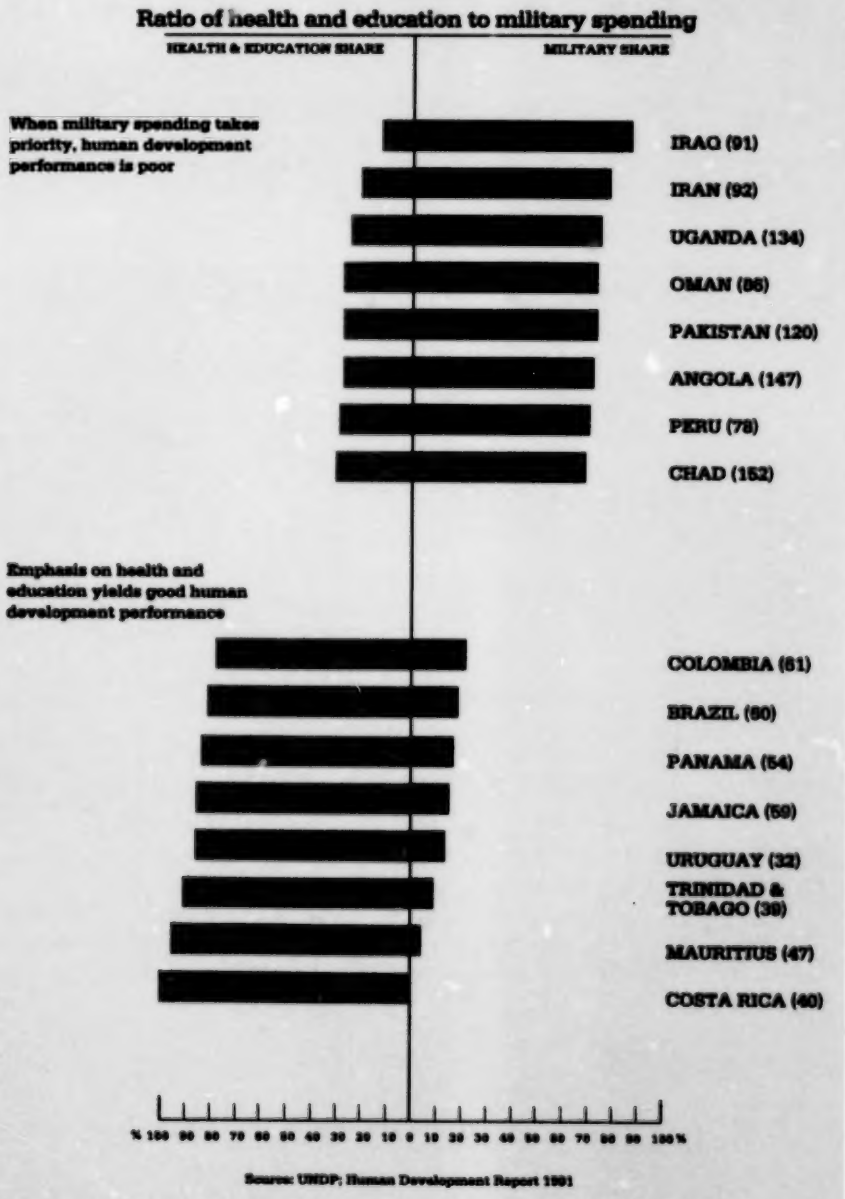
While the report singles out a large number of developing countries for misplaced priorities, it is equally critical of the distorted aid patterns of many industrialized nations. The United States, for example, commits 0.15 per cent of its GNP to foreign aid each year. But most of this subsidizes defense spending in five countries: Israel, Egypt, Turkey, Pakistan and the Philippines. Only 1/100th of one per cent of US GNP is spent on human priority areas as defined by the report. In contrast, Nordic countries devote more than 0.9 per cent of their GNP to aid, with between 0.05 and 0.11 per cent going to priority areas — many times the overall donor average.

If only a third of total aid were earmarked for urgent human needs, assistance in these areas would jump fourfold, says the report. In the poorest countries this could have tremendous impact, because foreign aid often constitutes a high proportion of the national budget for development. In many such countries, donors' priorities inevitably become development priorities, and if the donor is more interested in arms and tham textbooks or sewage systems, the less fortunate in society are usually shortchanged.

The report further points out that, even in the best of times, finance ministers are often reluctant to undertake projects in the social sector because they offer little immediate financial return and demand recurring expenditures long into the future. The report notes that it is hardly encouraging to such officials if donors are also unwilling to finance social spending and prefer to give money for "capital-intensive schemes that just happen to require machinery and technical assistance from the same donor countries."

While the 1991 report focuses largely on Third World problems, it also suggests that industrialized countries could stand to examine their own domestic affairs. Noted in particular is the unravelling social fabric of many modern, industrialized societies due to a breakdown of social and cultural norms. Finland, which ranks number one on the HDI when adjusted for gender disparities, has the world's highest proportion of single parent homes (10 per cent). Sweden, also highly ranked, has the highest rate of illegitimacy (42 per cent). In the United Kingdom, over 400,000 people were officially classified as homeless in 1989, close to half of whom

Military Spending and Human Development Performance


Ratio of health and education to military spending
HEALTH & EDUCATION SHARE
MILITARY SHARE
When military spending takes priority, human development performance is poor
IRAQ (91)
IRAN (92)
UGANDA (134)
OMAN (86)
PAKISTAN (120)
ANGOLA (147)
PERU (78)
CHAD (152)
Emphasis on health and education yields good human development performance
COLOMBIA (61)
BRAZIL (60)
PANAMA (54)
JAMAICA (59)
URUGUAY (32)
TRINIDAD & TOBAGO (39)
MAURITIUS (47)
COSTA RICA (40)
% 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 %
Source: UNDP; Human Development Report 1991

The bars above represent 100 per cent of the total of combined spending in each country on health, education and the military. Example: 100 per cent of Costa Rica's total is devoted entirely to education and health. Mauritius spends less than five per cent on its military. The number in parenthesis after each country's name represents its ranking on the Human Development Index.

were children. Over 10 million people — 18 per cent of the population — were living below the poverty line. There are nine murder victims and 426 individuals in prison for every 100,000 people in the United States. "If policy-makers in the rich countries do not address their own human agenda, it will be difficult to persuade them to show compassion for poor people in far-off lands," says Dr. Haq. "Concern for human development must begin at home."

The *Human Development Report 1991* concludes with a plea for a new world order based on humanitarian concerns. It calls for a global compact for human development, which would involve setting up realistic goals, incorporating these goals into national development plans and investment budgets, reassessing aid priorities, and creating a world economic environment that favours the growth of developing nations.

As initial targets, the report suggests that countries should aim for universal primary education, basic health care, family planning, safe water for all and the elimination of malnutrition. The cost: around $20 billion a year, which could be amply accommodated by a three per cent cut in military spending by the industrialized nations. A mere freeze in military budgets by the developing countries would free over $10 billion a year.

Already, for those countries that have requested it, UNDP is providing assistance in drawing up new human development strategies. Such new approaches are now being shaped in Bangladesh, Colombia, Ghana, Madagascar, Pakistan and Viet Nam. Initial consultations have been completed in several other countries. What must come next is a mutual commitment from donor and developing countries to work together toward common goals. "If we can mobilize the political base for action," states the report, "the future of human development is secure." ■

The Gulf: Looking Ahead

UNDP envoys report on current conditions and future prospects in Iraq and Kuwait

In April, Gamil Hamdy, special representative to Kuwait, and Salah Bourjini, resident representative in Iraq, returned to New York to report on how UNDP offices had fared during the war, the extent of damage in both countries, and how UNDP might participate in post-war reconstruction. Following are excerpts from a briefing the two men gave at UNDP headquarters.

J. Langevin / Sygma

By Salah Bourjini

United Nations, New York — No one knows the extent of destruction caused by both the war and internal fighting in the north and south of the country. The government doesn't know. But the destruction is widespread. One of the intangible effects of the bombing has been its psychological effect, especially on the children. Iraq will need not only physical rehabilitation but emotional rehabilitation.

Life is almost at a standstill. In Baghdad, people receive two candles and two pails of water a day. People are concerned only with survival — how to find petrol, how to find food, how to cook the food. The trees of Baghdad are being felled for cooking fires.

The lack of petrol affects everybody. Without fuel there is no power for generating electricity or running sewage systems or filtering water. Sewage is backed up, flooding some residential areas. Farmers can't plant without fuel for their irrigation pumps, and whatever they harvest they can't truck to market.

In Baghdad, lack of petrol means there are only a handful of buses running and few private cars on the road. Taxis charge US$50 for a short one-way trip. Businesses are shut because no one can get to work. UNDP's office on Abunawas Street is intact. But out of a staff of 40 nationals, only six could make

Continued on p.29

Ian Martin / UNDP

Gamil Hamdy, continued

up as high as skyscrapers. In other places lakes of oil are flooding the soil. A UN colleague remarked that this was the first time he had ever seen soil erosion due to crude oil. One minute the sun is shining and you are walking outside in shirt sleeves. The next minute the wind changes and suddenly the sun disappears and you are rushing indoors to get a jacket. The air becomes sticky. The long-term impact of the noxious gases is still unknown.

One health hazard you don't hear much about are mines. The de-mining teams have already dug up over three million mines. Yet this may be only 10 per cent of all the mines left in Kuwait. They form a present danger, especially on the beaches. People are faring as well as can be expected. They were well organized for survival during the occupation, distributing scarce food stocks among themselves. The civilian affairs units of the coalition forces have done a remarkable job with their Kuwaiti counterparts getting electricity, running water and some phones restored. Basic health services have also been revived. Nine essential commodities, such as flour, rice and cooking oil, are being distributed free by the government. This includes bottled drinking water.

Some traditional attitudes are changing. There is a sense that women should have a more active role to play. Before the war many Kuwaitis were good managers, but were more inclined to supervise than to do the job themselves. They are now doing the job themselves. Manpower is short. For example, there are no government chauffeurs. Ministers often drive themselves to work. The drivers transporting the Ahtisaari mission were young foreign ministry officials who volunteered to do the job. People are eager to contribute to the reconstruction of their country.

While in exile the government met with many Kuwaitis, including the opposition, and, among other things, discussed a new post-war population and labour policy. Before the crisis, there were 700,000 Kuwaitis and 1.4 million expatriates. Now the goal appears to be a total population of only 1.2 million.

This will require reforming the educational system to provide more vocational skills and middle level management skills once performed by foreigners. It is in this area of human resources development that the government, once formed, may be looking to UNDP for guidance. Meanwhile, operational experts and UN Volunteers could be useful right away to help fill technical posts. UNDP could assist in the increased participation of women in Kuwaiti development. This will be all the more needed if the population is kept smaller. We can further assist the private sector. In the long-term, the economy needs to escape from its near total dependence on the oil industry and expand into the services sector. UNDP and the UN system could be put to work supporting self-reliance, strengthening productivity, and building understanding and social harmony — in a word, enhancing "osmosis" between the various segments of society. ■

Ruth Massey / UNDP

Salah Bourjini, continued

it to the office. The rest live too far away to walk, and so far the office can't transport them for lack of fuel.

You go to the Ministry of Health, and there are only a handful of officials on hand. Phones don't operate. The only way to communicate with clinics and hospitals is to send a messenger. But the only vehicle available is the Minister's car, and to keep it going, the Minister frequently has to hunt for petrol on the black market. When available, petrol sells for $26 a gallon.

Conditions are worse in the countryside. Thousands are trying to reach the cities where they hope there will be food and medicine. Check points outside Baghdad keep many from entering the city. In the aftermath of the fighting in the north and the south, almost all government-run infrastructure has been destroyed — hospitals, schools, libraries, local government buildings.

In Baghdad, authorities try to distribute key items like flour and tea and cooking oil. But you go to a distribution centre and only one item is available. You are told to come back next week for the rest. This week it may be a bar of soap. Next week, perhaps a bag of rice. In the markets, prices for flour and other necessities have soared at least 20 times their pre-war price. Only the very affluent can afford to pay.

Nothing is working. There is an army of unemployed roaming the streets looking for jobs, made worse by thousands of demobilized soldiers and militia. Crime is not yet a problem. But everywhere there is an atmosphere of anxiety, dread, despair.

I made one trip outside Baghdad with the Ahtisaari team. We drove 20 kilometres west of the city to Bughrib to see two UNDP projects located just beyond the campus of the agricultural school of the University of Baghdad. One was a regional rinderpest control centre and laboratory that last year provided vaccine for more than one million livestock throughout West Asia. It was financed in part by a $1.9 million UNDP grant. Both the lab and the administrative centre had been demolished by bombs. So had a nearby warehouse attached to a UNDP-assisted seed multiplication centre. Seeds will now have to be imported. There were no other buildings in the area. Only a few offices belonging to the Ministry of Agriculture escaped the raid.

The real danger now is that with the coming of the summer heat, when temperatures reach 50 degrees centigrade, all that untreated water and open sewage will spread disease in a population that is already highly vulnerable. Doctors fear outbreaks of cholera, typhoid and meningitis.

UNDP is trying to respond on the humanitarian level. Our office is coordinating emergency assistance. We are working with the World Food Programme on a plan to distribute food to 780,000 of Iraq's neediest people. UNICEF is bringing in vaccines — and other medicines — and consultants to help get a few clinics and hospitals functioning again. But life will never start returning to normal until fuel begins flowing and Iraq can buy the spare parts and equipment to get essential services going again. ■

Pooling Resources for a Lasting Peace in the Middle East

Charles Geer Photography

By Dr. Mohamed T. El-Ashry

The Gulf War was the fifth Middle East war in 43 years. It is no more likely to bring the region lasting peace and stability than the previous four wars did, unless more thought is given to its aftermath.

As diplomats and political leaders struggle to agree on an agenda for lasting peace in the region, they should also take into account the underlying problems that conspire against the success of narrowly defined political solutions. This means dealing with the vast disparity between rich and poor Arabs, underdevelopment and social inequity, conflicts over limited natural resources, and rapid population growth fueled by both high indigenous birth rates and immigration.

In the past, military power and defensible borders have defined security in the Middle East, as elsewhere. But this narrow definition ignores another major threat to regional security: direct conflict over scarce resources, many of which straddle national boundaries. Historically, water has been in short supply, a situation continually exacerbated by population growth and pollution. In the Jordan River Basin, which has suffered a prolonged drought, both Israel and Jordan face growing water demands that will complicate future peace efforts. Similar conflicts among Iraq, Syria and Turkey are likely in the Tigris-Euphrates river system and among Egypt, Ethiopia and Sudan in the Nile Basin.

Water shortages have combined with soil erosion and desertification to degrade farm and grazing lands and reduce food production. Several countries, including Egypt and Iraq, have become net food importers and the gap between food production and consumption in the region is widening. The gap is also widening between the rich and poor, both between and within nations, creating conditions ripe for fanaticism, civil strife and political instability. Consider these vast disparities in per capita income, based on 1988 GNP in US dollars: Yemen, $600; Egypt, $660; Morocco, $830; Saudi Arabia, $6,200 and the United Arab Emirates, $15,770.

The Middle East's overall wealth of financial and intellectual resources can offset the unequal distribution of natural resources. But inequities will fester unless a way can be found to pool these resources for the benefit of all people of the region.

One solution is to establish a "Middle East Development Bank" resembling the African, Asian and Inter-American Development Banks — with one crucial difference. Funding should not come from the United States and other rich industrialized countries, but from the region's oil revenues. The Middle East Development Bank would help finance rural development, transnational highways to increase mobility and commerce, and public works and environmental projects to create jobs and enhance the quality of life. It would also promote bold regional water development schemes.

Such co-operation would enable Middle Eastern countries to share

IHRT / Stern / Black Star

Nile Delta: Historically, water has been in short supply.

knowledge, human resources and technology. If financing were available, methods for improved water management, food production, transportation and energy technologies could easily be shared because of the many similarities in climate, land and culture. UNDP's proposed Centre for Environment and Development in the Arab Region and Europe (CEDARE) can play a major role in addressing these important regional issues.

As nations grew confident in their ability to co-operate, they could revive long-standing proposals for ambitious agricultural projects. The Sudan, where arable land and water are plentiful, could become the Middle East's breadbasket, taking pressure off less productive lands. Saudi Arabia now grows wheat at a cost eight times higher than its price on the world market — and at the risk of depleting its irreplaceable underground aquifers.

Such a comprehensive framework for regional co-operation and security in the Middle East would capitalize on the collective interest of all its countries. It would also build on efforts that existed prior to August 2, 1990. Before the war, the Arab Development Fund, headquartered in Kuwait, financed a number of successful projects in various Arab countries. But it is far too small to provide the assistance needed to help stabilize the whole region. A precedent for Arab-Israeli co-operation exists in their joint efforts, under UN auspices, to clean up the polluted Mediterranean. Moreover, the crucial role played by the United Nations in the Gulf Crisis as well as the success of the military coalition could well facilitate joint action on a broader political agenda.

The old divide-and-conquer notion that has dominated great power relations in the Middle East for a half century has failed miserably. The sooner regional reconciliation, co-operation, and development begin, the better chances are for a durable peace. The industrialized world, with its vast economic interests, has a great deal to gain from helping the Middle East achieve a regional identity that transcends Arab-Israeli divisions. ■

"Speaking Out" is open to readers who wish to offer clear, well-supported positions on development issues. Contributions do not necessarily reflect the views of UNDP.

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